

22th INTERNATIONAL SPECIALIZED COURSE
OPERATION AND CONTROL OF ACTIVATED SLUDGE
PROCESSES USING MICROBIOLOGICAL ANALYSIS
Perugia - Italy

FILAMENTOUS MICROORGANISMS IN ACTIVATED SLUDGE

Type 021N
(now *Thiothrix eikelboomii*)

UNDER PHASE CONTRAST OBSERVATION

OBSERVATION AT 1000X	Sulfur Granules	<i>In situ</i>	- , +
		<i>S Test</i>	+
	Other Cell Inclusions		PHA
	Filament Diameter		1.6 - 2.5 µm
	Filament Length		500 - 1000 µm
	Filament Shape		Straight, smoothly curved
	Filament Location		Extends from floc surface
	Cell Septa clearly observed		+
	Indentations at Cell Septa		+
	Sheath		-
	Attached Growth		-
	Cell Shape and Size		Barrel, rectangles, discoids 1.6 - 2.5 x 2.0 µm
	Notes:		Rosettes, Gonidia, Foot
	UNDER DIRECT ILLUMINATION		
Gram Stain		-	
Neisser Stain	<i>Filament</i>	-	
	<i>Granules</i>	- , +	

Phylogenetic
affiliation:

Gammaproteobacteria

Causes:

- High rbCOD
- N deficiency
- Sulfide

Remedies:

- (High rbCOD):
Selector, Cl₂
- (N deficiency):
Add N source
- (Sulfide):
Anoxic/aerobic
selector, eliminate
septicity/sulfide, Cl₂

